

Claims:

1. A lighting system controller comprising:  
an input power factor correction circuit adapted to supply boosted and converted DC power from an AC power source;  
a start-up circuit adapted to provide a starting voltage to an output power conditioning unit, the start-up circuit including a first circuit adapted to provide a first bias voltage supply to the output power conditioning unit and a second circuit adapted to provide a second bias voltage supply to the input power factor correction circuit, the output power conditioning unit adapted to reduce output to a fluorescent gas discharge lamp when a preset threshold level of light is detected.
2. The controller of claim 1, further comprising a switching unit adapted to control application of the boosted and converted DC power to a lamp unit.
3. The controller of claim 1, wherein the output power conditioning unit is connected to the input power factor correction circuit and to a switching unit.
4. The controller of claim 1, wherein the output power conditioning unit is adapted to control the operation of a switching unit so as to control application of the boosted and converted DC power to a lamp unit.
5. The controller of claim 1, wherein the first circuit is a first voltage doubling rectifier circuit and comprises a first pair of diodes.
6. The controller of claim 5, wherein the second circuit is a second voltage doubling rectifier circuit and comprises a second pair of diodes.
7. The controller of claim 1, wherein the start-up circuit is adapted to provide a starting voltage to the output power conditioning means.

8. The controller of claim 1, wherein the start-up circuit includes a first zener diode electrically connected to the input power factor correction circuit that limits and regulates the second bias voltage supply.

9. The controller of claim 8, wherein the start-up circuit includes a second zener diode electrically connected to the output power conditioning unit that limits and regulates the first bias voltage supply.

10. The controller of claim 1, wherein the output power conditioning unit supplies a heating voltage.

11. The controller of claim 1, wherein the output power conditioning unit supplies an arc current.

12. The controller of claim 1, wherein a switching unit is adapted to provide positive and negative DC voltages to a lamp unit.

13. A control system according to claim 1, further comprising a feedback system adapted to sense lamp unit light output and automatically adjust a current level supplied to a lamp unit.

14. The control system according to claim 1, wherein an output to a fluorescent gas discharge lamp can be reduced when light above the threshold is detected.

15. The control system according to claim 1, wherein when a photocell is in low light conditions, a minimum oscillator frequency is determined by resistor R116.

16. The control system according to claim 1, wherein when a photocell is in bright light conditions, currents across transistors Q1 and Q2 set a maximum oscillator frequency.

17. The control system according to claim 1, wherein the current carried by transistor Q3 is linearly proportional to a current carried by a photocell.
18. The control system according to claim 1, wherein a direct current signal is used to charge capacitor C116.
19. The control system according to claim 1, wherein diodes D1-D4 gate currents in transistors Q1 and Q2 to charge a timing capacitor.
20. A method of controlling a lighting system comprising:  
supplying a boosted and converted DC power from an AC power source; and  
providing a starting voltage wherein a first circuit provides a first bias voltage supply to an output power conditioning unit and a second circuit provides a second bias voltage supply to an input power correction circuit, wherein the output power conditioning unit is adapted to reduce output to a fluorescent gas discharge lamp when a preset threshold level of light is detected.
21. A controller comprising:  
an input power factor correction circuit adapted to supply boosted and converted DC power from an AC power source;  
a start-up circuit adapted to provide a starting voltage to an output power conditioning unit, the start-up circuit including a first circuit adapted to provide a first bias voltage supply to the output power conditioning unit and a second circuit adapted to provide a second bias voltage supply to the input power factor correction circuit, the output power conditioning unit adapted to reduce output when a preset threshold level is detected.